Biochemical Genetics, Vol. 14, Nos. 11/12, 1976

Author Index to Volume 14

Aebi, H., 791
Agatsuma, T., 441
Ajmar, F., 877
Amnéus, H., 953
Anderson, D. E., 671
Arens, M.-F., 989
Arnheim, N., 237
Audit, L., 759
Avise, J. C., 347
Azen, E., 225

Baker, F. T., 281
Baranov, O. K., 327
Bazin, H., 209
Beintema, J. J., 309
Belyaev, D. K., 327
Belyaeva, E. S., 161
Bernet, J., 857
Birt, L., 145
Bischoff, W. L., 1019
Blake, R. L., 739
Bocquet, C., 989
Boucherie, H., 857
Brimhall, B., 577, 1065
Bross, K., 293
Browder, L. W., 523
Brown, G. M., 259, 271
Bruns, G. A. P., 1
Bruzzone, G., 877
Burrows, P. M., 47
Busbee, D. L., 671

Cantrell, E. T., 671
Cederbaum, S., 245
Champion, M. J., 723
Chapman, M. J., 883
Chernoff, A. I., 427
Chourey, P. S., 1041
Coomes, M. L., 671
Courtright, J. B., 1057
Craig, I. W., 99

Dalby, A., 641
Dalling, M. J., 905
Daniel, W. L., 933, 1003
David, J. R., 989
Davisson, M. T., 651
Dawson, W. D., 389
Delettre, Y. M., 857
Denney, R. M., 99
Deparis, P., 759
de Stordeur, E., 481
Dickinson, W. J., 709
Dresler, S. L., 1065
Duffy, L. K., 809
Duval, M. C., 577

Eicher, E. M., 651
Endrizzi, J. E., 1071
Engel, W., 19, 293, 975

Fan, C. L., 259, 271
Fisher, R. A., 963
Flavin, M., 759
Foster, G. G., 145
Fouillet, P., 989

© 1976 Plenum Publishing Corporation, 227 West 17th Street, New York, N.Y. 10011. No part of this publication may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, electronic, mechanical, photocopying, microfilming, recording, or otherwise, without written permission of the publisher.

Fox, I. H., 587
Fudenberg, H. H., 209
Fukushima, T., 507

Garré, C., 877
Genaux, C. T., 809
Gerald, P. S., 1
Giesel, J. T., 823
Gill, A. E., 835
Goldstein, S., 883
Goto, H., 697, 999
Green, D. L., 905
Grieshaber, C. K., 59
Gross, J., 791

Hackel, E., 963
Håkansson, E. M., 771, 869
Hall, J. G., 739
Hall, L. M., 271
Hanly, E. W., 197
Hannah, L. C., 547
Hart, G. E., 595
Hedgecock, D., 561
Hirano, T., 687
Hoffman, H. A., 59
Holmes, R. S., 981
Holmgren, P. Å., 777
Hood, J. M., 467
Hood, L., 467
Howells, A. J., 1077

Jensen, J. N., 541
Johnson, F. M., 47
Johnson, G. B., 403
Jones, R. A., 641
Jones, R. T., 577, 1065

Kaczmarczyk, W., 281
Kálal, L., 27
Katterman, F. R. H., 1071
Keyes, T. W., 197
Khlebodarova, T. M., 1091
Kilpatrick, C. W., 137
Kim, Y. K., 427
Koehler, R., 517
Koler, R. D., 577
Korochkin, L. I., 161, 1091
Krog, H. H., 319
Kuhl, P., 975
Kuzin, B. A., 161

LaCroix, S., 587
Laird, C. D., 357
Lamb, M. M., 357
Lee, K. H., 641
Leibenguth, F., 299
Li, I. C., 933
Lin, K. D., 427
Loh, E. Y., 467
Lusis, A. J., 849

MacIntyre, R., 237
MacLaren, I. A., 67
Marchant, P., 587
Mason, W. A., 671
Matsumoto, T., 687
Matveeva, N. M., 161
Maybank, K. M., 389
McAlpine, P. J., 661
McDonald, J. F., 347
Meisler, M. H., 921
Mellman, W. J., 635
Merkle, J. R., 541
Milkman, R., 383, 517
Mishkin, J. D., 635
Molden, D. P., 527
Muijsson, I. E., 671
Mulder, H., 309
Murata, M., 183
Murray, B. G., 897

Narang, N., 75
Narang, S., 75
Nash, H. R., 119
Naso, R. B., 281
Nelson, O. E., Jr., 547, 1041

Ogasawara, N., 697, 999
Olivera, B. M., 197
Ootsu, K., 687
Ostberg, L., 771
Ott, L. A., 619

Paik, Y. K., 495
Palser, H. R., 661
Peacock, T. A. R., 523
Peters, J., 119
Petras, M. L., 67
Putt, W., 963

Radok, K. R., 145
Rasmussen, D. I., 541
Ravazzolo, R., 877
Reynolds, S. C., 651
Richardson, R. H., 447
Roderick, T. H., 651
Rosa, R., 759
Russell, E. S., 373, 739
Ryall, R. L., 1077

Savina, M. A., 327
Scandalios, J. G., 619
Scherz, B., 791
Schmidtke, J., 19, 293, 975
Schulte, B., 975
Schultz, G. A., 523
Seegmiller, J. E., 527
Serov, O. L., 161, 1091
Shaw, D. C., 145
Sherrard, J. H., 905
Skaper, S., 527
Skrinska, A. J., 271
Šlechta, V., 27
Šlechtová, V., 27
Smith, P. D., 611
Smouse, P. E., 447
Snyder, R. D., 611
Sofer, W., 127
Steiner, W. W. M., 495
Steinmetz, H., 299
Stern, R. H., 373, 651
Stewart, D. J., 197
Stigbrand, T., 777
Stratil, A., 27
Stratton, L. P., 809
Sung, K. C., 495
Swinden, L. B., 905

Takeuchi, T., 441
Taylor, B. A., 373, 635
Thompson, P. E., 183
Thomson, J. A., 145
Torres, A. M., 87
Torres, M. A., 595
Tsai, C. Y., 641
Tsuji, S., 507
Turner, J. W., Jr., 577

Ulrich, V., 281

Valenta, M., 27
Vigue, C., 127

Wang, A.-C., 209
Watanabe, T., 697, 999
Weiler, C., 293
Weisbrod, E., 709
Welling, G. W., 309
West, J. D., 849
Whitt, G. S., 723
Whitten, M. J., 145
Williams, C. A., 897
Wilson, H. D., 913
Wilson, J. T., 1071
Womack, J. E., 651
Wyss, S. R., 791

Yamamoto, M., 1077
Yoshida, A., 245

Zakijan, S. M., 1091
Zenzes, M. T., 293
Zimmerman, E. G., 137

Biochemical Genetics, Vol. 14, Nos. 11/12, 1976

Subject Index to Volume 14

Acatalasemia, Swiss-type, 791
Acid phosphatase, 595
Acid proteinase, 905
Adenosine diphosphate glucose pyrophosphorylase, 547
Adenylate kinase isozymes, 1
Adh-negative mutants, 127
Affinity chromatography, 953
Albumin, 67
Alcohol dehydrogenase, 47, 75, 87, 127, 299, 347, 383, 989
Allelic isozymes, 723
Allotypes, 327
Allozymes, 299, 383, 447
Amino acid disorders in human lymphoblasts, 527
D-amino acid oxidase, 981
Amino acid sequence, 209, 309, 427
Aneuploids, 897
Antibody gene families, 467
Antibody purification, 237
Aryl hydrocarbon hydroxylase (AHH), 671
Arylsulfatase, 1003

Benzo[a]pyrene, 671
Biochemical markers, 319
Biochemical properties, 1003
Biomphalaria, 75
Branched-chain α-keto acid, 527
Brittle-2, 547
Briza, 897

Camelidae, 309
Canidae, wild, 963
Carbonic anhydrase, 651
Carp, 27
Catalase, 791, 981
Catalase mutant, unstable, 791
Chenopodium quinoa, 913
Chicken, 507
Chromatin, 281
Chromosome 1, 1
Chromosome 8, 999
Chromosome substitution, 905
X chromosome, 587
Chymotrypsin, 697, 953, 999
Cline, 403
Codon, 183
Cold sensitivity, 857
Colias, 403
Control, 319
Controlling elements, 547
Cotton, 1071
Cricetidae, 809
Culex pipiens pipiens, 481
Cultivated chenopods, 913
Cyprinid fish, 19
Cyprinidae, 975

Decarboxylase deficiency, 527
Deermouse, 389
Deoxyribonucleic acid (DNA), 281
Development, 271, 709
Developmental genetics, 595
Dihydroneopterin triphosphate, 259
5α-Dihydrotestosterone, 869
Distance, 447
Diversity distance, 467
Dog (*Canis familiaris*), 1065
Drosophila, 347, 1019, 1077
Drosophila imeretensis, 161
Drosophila immigrans, 495
Drosophila melanogaster, 47, 237, 259, 271, 299, 357, 383, 611, 989

© 1976 Plenum Publishing Corporation, 227 West 17th Street, New York, N.Y. 10011. No part of this publication may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, electronic, mechanical, photocopying, microfilming, recording, or otherwise, without written permission of the publisher.

Drosophila simulans, 495
Drosophila taxonomy, 447

Ecdysterone, 197
Electromorphs, 447
Electrophoresis, 47, 59, 99, 161, 225, 245, 611, 835, 877, 1091
Enzyme activities, 975
Enzyme activity variation, 347
Enzyme biological activity, 989
Enzyme induction, 869
Enzyme inhibition, 75
Enzyme markers, 963
Enzyme regulation, 59
Enzyme variation, 561
Enzymes, 1091
Erythrocyte, 759, 791
Erythrocyte membrane, 877
Esterase-10, 119
Esterases, 161, 481
Estradiol, 671
Ethanol, 127
Evolution, 19, 209, 293, 595, 975
Eye pigmentation, 1077

Fetal, 389
Fitness, 823
Flavone *C*-glycosides, 897
Flavonoid synthesis, 897
Fluorogenic substrates, 119
Foxes, Arctic and silver, 1091

α-Galactosidase, 849
β-Galactosidase, 921, 933
Gel electrophoresis, 641
Gene activation, 161
Gene duplication, 145, 651, 913
Gene frequencies, 225
Gene mapping, 99, 661
Gene products, 619
Genetic control, 327, 441, 641, 687
Genetic determination, 27
Genetic divergence, 835
Genetic heterogeneity, 953
Genetic variants, 777
Genetic variation, 47, 495, 771, 835, 869, 1003
Genetics, 87, 209, 481, 507, 709, 823, 921, 981
Genome organization, 709
Genotypes, *Zw*, 823
Geographic patterns, 561
Glucose-3-phosphate dehydrogenase, 1057
Glucose-6-phosphate dehydrogenase (G6-PD), 245
Glucosephosphate isomerase, 723
β-Glucuronidase, 771, 869
Glycerokinase, 1057
α-Glycerophosphate dehydrogenase, 347, 403
Glycolytic enzymes, 759
Gossypium, 1071
Gramineae, 897
Growth, 281
Guanosine triphosphate (GTP), cyclohydrolase, 259, 271

H-2 region, 771
Hamster–human somatic cell hybrids, 661
Hawaiian populations, 495
Hb Burke, 577
Helianthus annuus, 87
Hemoglobin, 137, 183, 389, 577, 809
Hemoglobin A, 427
Hemoglobin α chain, 1065
Hemolymph, 145
Heterosis, 281
House fly, 441
House mouse, 1003
Human anodal tear proteins, 225
Human chromosomes, 99
Human gene locus expression, 661
Hydroxyacid oxidase, 981
16α-Hydroxylase(SAH), 671
Hyperprolinemia, 739
Hypochromicity, 1071
Hypoxanthine-guanine phosphoribosyltransferase (HGPRT), 587

Identification, 319, 327
Imaginal discs, 197
Immunochemistry, 661
Immunoglobulins, 209
Immunological cross-reactivity, 883
Immunological methods, 237
Inbred strains, 59, 119, 869

Inheritance, 933
Intergenic isozymes, 87
Interspecific hybrids, 161
Interspecific variations, 75
Isoelectric point, 777
Isoenzyme (see Isozymes)
Isolated populations, 495
Isospondyli, 293, 975
Isozyme activity, 87
Isozyme focusing, 953
Isozyme variation, 913
Isozymes, 47, 245, 595, 619, 697
  kidney, 933

Kidney, 771, 869
Kidney catalase, 59

Lactate dehydrogenase, 441
Ladder model, 447
Leucine aminopeptidase, 913
Linkage, 373, 635, 651, 999
Lipoproteins, 327
Lipoprotein, serum low-density, 883
Lucilia cuprina, 145
Lyon hypothesis, 587

Macaque, 183
Maize, 1041
Maize endosperm, 547
Man–rodent somatic cell hybrids, 1
Maple syrup urine disease, 527
Marmoset (*Saguinus fuscicollis*), 427
Mastomys, 687
Mice, 697, 999
  insular deer, 835
Microsomal, 671
Microtus xanthognathus, 809
Mink, 327
Mitochondria, mouse, 739
Mixed-function oxygenase, 671
Molecular hybrid, 791
Molecular properties, 933
Molecular variant, 67
Mosaicism, 587
Mouse, 849, 921, 933
  embryonic globins, 373
  galactokinase locus, 635
Mouse–human hybrids, 99
Mouse strains, 319
  inbred, 771
Mus musculus, 67, 119, 651
Mus musculus castaneus, 651
Mutant, *leu-5*, 1057
Mutant, *shrunken*, 1041
Mutants, 271
Mutation, 183, 507

Net charge, 447
Neurospora, 1057
Newt, 759
NAD^+(P)ase, 877
NAD turnover, 197
Nitrate reductase, 905
Nitrite reductase, 905
Null alleles, 237

Organ-specific isozymes, 75
Ornithine transcarbamylase, 507

Pancreas, 309
Peptidases, 619
Peptide mapping, 67
Peromyscus, 137, 389
Peroxisomes, 981
Phenol oxidases, 611, 857
Phenoxazinone synthase, 1077
Phosphoglucomutase-1, 1
6-Phosphogluconate dehydrogenase, 1
Phosphopyruvate hydratase, 1
Placental alkaline phosphatase, 777
Poly (A)-containing RNA, 357
Polyacrylamide gel electrophoresis, 75
Polyacrylamide gels, 225
Polymorphism, 27, 137, 145, 183, 309, 403, 481, 687
Polyols, 1019
Polyploidy, 19, 293, 759, 897, 975
Pool variation, 467
Posttranscriptional regulation, 857
Probability matrix, 467
Proline dehydrogenase, 739
Proteases, 857
Protein, 281
Protein content, 975
Proteinase, 697, 999
Proteins, 1091
Protoplasmic incompatibility, 857
Pteridine biosynthesis, 271

Pteridines, 259
Pyridine nucleotide metabolism, 197

Rainbow trout, 245
Rat liver, 281
Recolonization events, 495
Recombinant inbred lines, 921
Regulation, 709
Renaturation, 1071
Repetitive DNA, 1071
Ribonuclease, 309
Ribonucleic acid (RNA), 281, 975
Ribosomal proteins, 611
Ribosomal RNA genes, 19, 293
Rodent, 137

Sedimentation coefficient, 777
Selection, 447
Selective technique, 127
Serum transferrins, 687
Sex differences, 1003
shrunken-2, 547
Sorbitol dehydrogenases, 1019
Species variability differences, 561
Specific activity, 777
Spectrophotometry, 611
Spermatogenesis, 1019
Starch deficient, 1041
Starch gel electrophoresis, 319, 495
Storage protein, 145, 641
Strains, 373
Structural gene, 849, 1065
Substrate specificities, 75
Sucrose synthetase, 1041
Sunfish hybrids, 723
Suppression, 611
Synchronous allelic expression, 723

Taricha salamanders, 561
Testosterone, 771
Thermostability, 383
Tissue variation, 933
Toxicity of alcohols, 989
Transferrin, 27
  characterization, 27
  heterogeneity, 27
Triticum, 595
Triticum aestivum, 905
Trypsin, 697
Tryptic maleylated peptides, 427
Tryptic peptides, 809
Tryptophanyl-tRNA synthetase, 99
Two loci, 1041

Unstable hemoglobin, 577

Variant hemoglobin, 577
Variation, inter/intraspecific, 963

Xanthommatin synthesis, 1077
X-linkage, 849

Zea mays, 619, 641

Biochemical Genetics—Volume 14, 1976

A journal for the reporting of original research in biochemical genetics of any organism, from virus to man. Papers will deal with the molecular aspects of genetic variation and evolution, mutation, gene action and regulation, immunogenetics, somatic cell genetics, and nucleic acid function in heredity and development and with the biochemical aspects of genetic defects (provided these are not purely clinical).

Papers on new methods that apply to the above topics will be included.

Review articles will also be published occasionally.

EDITORS

Hugh S. Forrest and Robert P. Wagner, Department of Zo logy, University of Texas at Austin, Austin, Texas

EUROPEAN EDITOR

Forbes Robertson, Department of Genetics, University of Aberdeen, Aberdeen, Scotland

ASSOCIATE EDITORS

Charles R. Shaw, University of Texas M. D. Anderson Hospital, Houston, Texas
Richard E. Tashian, University of Michigan, Ann Arbor, Michigan
Allan C. Wilson, University of California, Berkeley, California

ADVISORY BOARD

H. Aebi, University of Bern, Bern, Switzerland
C. Baglioni, Massachusetts Institute of Technology, Cambridge, Massachusetts
L. Beckman, University of Umeå, Umeå, Sweden
G. J. Brewer, University of Michigan, Ann Arbor, Michigan
D. J. Cove, University of Cambridge, Cambridge, England
C. H. Doy, Australian National University, Canberra, Australia
W. F. Feenstra, University of Groningen, Groningen, The Netherlands
J. R. S. Fincham, University of Leeds, Leeds, England
W. M. Fitch, University of Wisconsin, Madison, Wisconsin
H. H. Fudenberg, University of South Carolina, Charleston, South Carolina
J. B. Harborne, University of Reading, Reading, England
L. Hood, California Institute of Technology, Pasadena, California
D. A. Hopkinson, The Galton Laboratory, London, England
J. J. Hutton, University of Kentucky, Lexington, Kentucky
T. H. Jukes, University of California, Berkeley, California
H. N. Kirkman, University of North Carolina, Chapel Hill, North Carolina
L. I. Korochkin, Institute of Cytology and Genetics, Novosibirsk, USSR
R. Lewontin, Harvard University, Cambridge, Massachusetts
E. Margoliash, Northwestern University, Evanston, Illinois
K. Paigen, Roswell Park Memorial Institute, Buffalo, New York
F. H. Ruddle, Yale University, New Haven, Connecticut
J. G. Scandalios, North Carolina State University, Raleigh, North Carolina
D. C. Shreffler, University of Michigan, Ann Arbor, Michigan
O. Smithies, University of Wisconsin, Madison, Wisconsin
Z. Šormová, Institute of Organic Chemistry and Biochemistry, Prague, Czechoslovakia
H. E. Sutton, University of Texas, Austin, Texas
E. Vesell, Pennsylvania State University, Hershey, Pennsylvania
G. S. Whitt, University of Illinois, Urbana, Illinois
W. J. Young, University of Vermont, Burlington, Vermont

Published bimonthly at Osney Mead, Oxford, England, by Plenum Publishing Corporation, 227 West 17th Street, New York, N.Y. 10011. In 1976, Volume 14 (12 issues) will be published. Subscription orders should be addressed to the publisher. *Biochemical Genetics* is abstracted or indexed in Biological Abstracts, Chemical Abstracts, Excerpta Medica, Index Medicus, Current Contents, and Psychological Abstracts.

© 1976 Plenum Publishing Corporation.

Subscription rates:

Volume 14, 1976 (12 issues) $95.00. Price for individual subscribers certifying that the journal is for their personal use, $54.00. Outside the U.S. add $5.40 for postage and handling. Prices somewhat higher outside the U.S.

Volume 15, 1977 (12 issues) $115.00. Price for individual subscribers certifying that the journal is for their personal use, $60.00. Outside the U.S. add $5.40 for postage and handling. Prices somewhat higher outside the U.S.

Printed in Great Britain.

Second-class postage paid at Jamaica, N.Y. 11431.

Biochemical Genetics is published bimonthly at Osney Mead, Oxford, England, by Plenum Publishing Corporation, 227 West 17th Street, New York, N.Y. 10011. In 1976, Volume 14 (12 issues) will be published. Subscription orders should be addressed to the publisher. *Biochemical Genetics* is abstracted or indexed in Biological Abstracts, Chemical Abstracts, Excerpta Medica, Index Medicus, Current Contents, and Psychological Abstracts. © 1976 Plenum Publishing Corporation.

CONTENTS

Vol. 14, Nos. 1/2 **February 1976**

Expression of the Human Adenylate Kinase Isozymes, Phosphopyruvate Hydratase, 6-Phosphogluconate Dehydrogenase, and Phosphoglucomutase-1 in Man–Rodent Somatic Cell Hybrids 1
Gail A. P. Bruns and Park S. Gerald

Gene Action in Fish of Tetraploid Origin. III. Ribosomal DNA Amount in Cyprinid Fish 19
J. Schmidtke and W. Engel

Polymorphism of Transferrin in Carp (*Cyprinus carpio* L.): Genetic Determination, Isolation, and Partial Characterization 27
M. Valenta, A. Stratil, V. Šlechtová, L. Kálal, and V. Šlechta

Isozyme Variability in Species of the Genus *Drosophila*. VIII. The Alcohol Dehydrogenase Polymorphism in North Carolina Populations of *D. melanogaster* 47
F. M. Johnson and P. M. Burrows

Genetic Studies of Murine Catalase: Regulation of Multiple Molecular Forms of Kidney Catalase 59
H. A. Hoffman and C. K. Grieshaber

Structural Differences Between Albumin A and Albumin C of the House Mouse, *Mus musculus* 67
M. L. Petras and I. A. MacLaren

Alcohol Dehydrogenase of *Biomphalaria glabrata* (Mollusca: Pulmonata): Polymorphism, Genetic Analysis, and Interspecific Variations 75
Sudhir Narang and Neelam Narang

Dissociation–Recombination of Intergenic Sunflower Alcohol Dehydrogenase Isozymes and Relative Isozyme Activities 87
Andrew M. Torres

Assignment of a Gene for Tryptophanyl-Transfer Ribonucleic Acid Synthetase (E.C. 6.1.1.2) to Human Chromosome 14 99
Richard M. Denney and Ian W. Craig

Polymorphism of Esterase-10 in *Mus musculus* 119
Josephine Peters and H. R. Nash

Chemical Selection of Mutants That Affect ADH Activity in *Drosophila*. III. Effects of Ethanol 127
Charles Vigue and William Sofer

Hemoglobin Polymorphism in the Encinal Mouse, *Peromyscus pectoralis* 137
C. William Kilpatrick and Earl G. Zimmerman

Genetics of Lucilin, a Storage Protein from the Sheep Blowfly, *Lucilia cuprina* (Calliphoridae) 145
John A. Thomson, Karen R. Radok, Denis C. Shaw, Maxwell J. Whitten, Geoffrey G. Foster, and L. Michael Birt

Genetics of Esterases in *Drosophila*. IV. Slow-Migrating S-Esterase in *Drosophila* of the *virilis* Group 161
L. I. Korochkin, E. S. Belyaeva, N. M. Matveeva, B. A. Kuzin, and O. L. Serov

Two-Nucleotide Codon Change in a Hemoglobin Polymorphism of the Celebes Black Ape (*Macaca nigra*) 183
Mitsuo Murata and Peter E. Thompson

Vol. 14, Nos. 3/4 **April 1976**

Pyridine Nucleotide Metabolism in Imaginal Discs of *Drosophila melanogaster* 197
Ted W. Keyes, Baldomero M. Olivera, D. J. Stewart, and E. W. Hanly

Partial Amino Acid Sequences of κ-Chains of Rat Immunoglobulins: Genetic and Evolutionary Implications 209
An-Chuan Wang, H. Hugh Fudenberg, and Herve Bazin

Genetic Polymorphism of Human Anodal Tear Protein 225
Edwin A. Azen

Preparation of Specific Antisera to *Drosophila* Acid Phosphatase Without Rigorous Protein Purification 237
Norman Arnheim and Ross MacIntyre

Glucose 6-Phosphate Dehydrogenase in Rainbow Trout 245
Stephen D. Cederbaum and Akira Yoshida

Partial Purification and Properties of Guanosine Triphosphate Cyclohydrolase from *Drosophila melanogaster* 259
Ching Liang Fan and Gene M. Brown

Correlation of Guanosine Triphosphate Cyclohydrolase Activity and the Synthesis of Pterins in *Drosophila melanogaster* 271
C. L. Fan, L. M. Hall, A. J. Skrinska, and G. M. Brown

Variations in Rat Liver Chromatin Composition During Growth and the Heterotic Response 281
R. B. Naso, F. T. Baker, W. Kaczmarczyk, and V. Ulrich

Gene Action in Fish of Tetraploid Origin. IV. Ribosomal DNA Amount in Clupeoid and Salmonoid Fish 293
J. Schmidtke, M. T. Zenzes, C. Weiler, K. Bross, and W. Engel

Association of the *Adh* Locus with a Lethal Factor (/(2)Stm) in *Drosophila melanogaster* 299
F. Leibenguth and H. Steinmetz

Allelic Polymorphism in Arabian Camel Ribonuclease and the Amino Acid Sequence of Bactrian Camel Ribonuclease 309
G. W. Welling, H. Mulder, and J. J. Beintema

Identification of Inbred Strains of Mice, *Mus musculus*. I. Genetic Control of Inbred Strains of Mice Using Starch Gel Electrophoresis 319
H.-H. Krog

Immunogenetic Study on the Polymorphism of Serum α_2-Lipoproteins in Mink. I. Identification and Genetic Control of Five Lpm Allotypes 327
O. K. Baranov, M. A. Savina, and D. K. Belyaev

Evidence for the Adaptive Significance of Enzyme Activity Levels: Interspecific Variation in α-GPDH and ADH in *Drosophila* 347
John F. McDonald and John C. Avise

The Size of Poly(A)-Containing RNAs in *Drosophila melanogaster* Embryos 357
Mary M. Lamb and Charles D. Laird

Strain Distribution and Linkage Relationship of a Mouse Embryonic Hemoglobin Variant 373
Ralph H. Stern, Elizabeth S. Russell, and Benjamin A. Taylor

Further Evidence of Thermostability Variation Within Electrophoretic Mobility Classes of Enzymes 383
Roger Milkman

Genetic and Developmental Variation of Hemoglobin in the Deermouse, *Peromyscus maniculatus* 389
Katherine M. Maybank and Wallace D. Dawson

Tenth Miles International Symposium: Impact of Recombinant Molecules on Science and Society 401

Vol. 14, Nos. 5/6 **June 1976**

Polymorphism and Predictability at the α-Glycerophosphate Dehydrogenase Locus in *Colias* Butterflies: Gradients in Allele Frequency Within Single Populations 403
George B. Johnson

Primary Structure of the Marmoset (*Saguinus fuscicollis*) Hemoglobin. I. Use of Tryptic Maleylated Peptides in the Solubilization and Sequence Elucidation of the α- and β-Chains 427
K. D. Lin, Y. K. Kim, and A. I. Chernoff

Genetic Control of LDH Isozymes in the House Fly, *Musca domestica* 441
Takeshi Agatsuma and Takuji Takeuchi

Patterns of Molecular Variation. I. Interspecific Comparisons of Electromorphs in the *Drosophila mulleri* Complex 447
R. H. Richardson and P. E. Smouse

A Mathematical Approach to the Analysis of Diversity in Antibody Gene Families 467
J. M. Hood, E. Y. Loh, and L. Hood

Esterases in the Mosquito *Culex pipiens pipiens* L.: Formal Genetics and Polymorphism of Adult Esterases 481
Eric de Stordeur

Electrophoretic Variability in Island Populations of *Drosophila simulans* and *Drosophila immigrans* 495
William W. M. Steiner, Ki Chang Sung, and Y. K. Paik

Autosomal Genetic Control of the Activity of a New Variant Ornithine Transcarbamylase in Chicken Kidney 507
Soichi Tsuji and Toyokazu Fukushima

†Isolectric Focusing of MDH and 6-PGDH from *Escherichia coli* of Diverse Natural Origins 517
Roger Milkman and Richard Koehler

†Lactate Dehydrogenase in One-Cell Rabbit Embryos Extracted with Triton X-100 523
Timothy A. R. Peacock, Gilbert A. Schultz, and Leon W. Browder

Vol. 14, Nos. 7/8 **August 1976**

Maple Syrup Urine Disease: Branched-Chain Amino Acid Concentrations and Metabolism in Cultured Human Lymphoblasts 527
Stephen D. Skaper, Daniel P. Molden, and J. Edwin Seegmiller

†Locus Number and Multiple Hemoglobins in *Eutamias* and *Peromyscus* 541
J. Neil Jensen, John R. Merkle, and David I. Rasmussen

Characterization of ADP-Glucose Pyrophosphorylase from *Shrunken-2* and *Brittle-2* Mutants of Maize 547
L. C. Hannah and O. E. Nelson, Jr.

†*NOTE*

Genetic Variation in Two Widespread Species of Salamanders, *Taricha granulosa* and *Taricha torosa* 561
Dennis Hedgecock

Characterization of Hemoglobin Burke [β107(G9) Gly→Arg] 577
James W. Turner, Jr., Richard T. Jones, Bernardine Brimhall, Michael C. DuVal, and Robert D. Koler

Hypoxanthine-Guanine Phosphoribosyltransferase: Mosaicism in the Peripheral Erythrocytes of a Heterozygote for a Normal and a Mutant Enzyme 587
Irving H. Fox, Pamela J. Marchant, and Sheila LaCroix

Developmental Specificity and Evolution of the Acid Phosphatase Isozymes of *Triticum aestivum* and Its Progenitor Species 595
Michael A. Torres and Gary E. Hart

The Suppressor of Forked Mutation in *Drosophila melanogaster*: Interactions with the Lozenge Gene 611
Ronald D. Snyder and P. Dennis Smith

Genetically Defined Peptidases of Maize. I. Biochemical Characterization of Allelic and Nonallelic Forms 619
Lila A. Ott and John G. Scandalios

Glk: A Locus Controlling Galactokinase Activity in the Mouse 635
J. D. Mishkin, B. A. Taylor, and W. J. Mellman

Genetic Regulation of Storage Protein Content in Maize Endosperm 641
K. H. Lee, R. A. Jones, A. Dalby, and C. Y. Tsai

Evolution of Mammalian Carbonic Anhydrase Loci by Tandem Duplication: Close Linkage of *Car-1* and *Car-2* to the Centromere Region of Chromosome 3 of the Mouse 651
Eva M. Eicher, Ralph H. Stern, James E. Womack, Muriel T. Davisson, Thomas H. Roderick, and Sallie C. Reynolds

An Immunochemical Method for the Detection of the Expression of Human Gene Loci in Human–Rodent Somatic Cell Hybrids with Special Reference to the *GPI* Locus 661
Helen R. Palser and Phyllis J. McAlpine

Aryl Hydrocarbon Hydroxylase and 16α-Hydroxylase in Cultured Human Lymphocytes 671
M. L. Coomes, W. A. Mason, I. E. Muijsson, E. T. Cantrell, D. E. Anderson, and D. L. Busbee

Vol. 14, Nos. 9/10 **October 1976**

An Electrophoretic Polymorphism in the Serum Transferrins of *Praomys (Mastomys) natalensis* 687
Koichiro Ootsu, Takao Matsumoto, and Takahiro Hirano

Genetic Study of Pancreatic Proteinase in Mice (*Mus musculus*): Genetic Variants of Trypsin and Chymotrypsin 697
Tomomase Watanabe, Nobuaki Ogasawara, and Haruko Goto

Gene Regulation in *Drosophila*: Independent Expression of Closely Linked, Related Structural Loci 709
W. J. Dickinson and Earl Weisbrod

Synchronous Allelic Expression at the Glucosephosphate Isomerase *A* and *B* Loci in Interspecific Sunfish Hybrids 723
Michael J. Champion and Gregory S. Whitt

Mitochondrial Proline Dehydrogenase Deficiency in Hyperprolinemic PRO/Re Mice: Genetic and Enzymatic Analyses 739
Robert L. Blake, John G. Hall, and Elizabeth S. Russell

Erythrocyte Enzyme Activities in Diploid and Triploid Salamanders (*Pleurodeles waltlii*) of Both Sexes 759
I. Audit, P. Deparis, M. Flavin, and R. Rosa

Relationship Among H-2 Type, Serum Testosterone Level, and Kidney β-Glucuronidase Activity in the Mouse 771
Eva M. Hâkansson and Lars Ostberg

Purification and Partial Characterization of Two Genetic Variants of Placental Alkaline Phosphatase 777
Per Åke Holmgren and Torgny Stigbrand

Properties of Erythrocyte Catalase from Homozygotes and Heterozygotes for Swiss-Type Acatalasemia 791
H. Aebi, Sonja R. Wyss, B. Scherz, and J. Gross

Amino Acid Differences Between the α-Chains from Two Hemoglobins of the Yellow-Cheeked Vole (Family Cricetidae) 809
Lawrence K. Duffy, Charles T. Genaux, and Lewis P. Stratton

Biology of a Duplicate Gene System with Glucose 6-Phosphate Dehydrogenase Activity in *Drosophila melanogaster*: Genetic Analysis and Differences in Fitness Components and Reaction to Environmental Parameters Among *Zw* Genotypes 823
James T. Giesel

Genetic Divergence of Insular Populations of Deer Mice 835
Ayesha E. Gill

X-Linked Inheritance of a Structural Gene for α-Galactosidase in *Mus musculus* 849
Aldons J. Lusis and John D. West

A Constitutive Mutation in a Posttranscriptional Regulator Gene for a Phenoloxidase and Proteases in *Podospora anserina* 857
H. Boucherie, Y. M. Delettre, and J. Bernet

Genetic Effects on Male Mouse Kidney Glucuronidase Activity 869
Eva M. Håkansson

Electrophoretic Demonstration and Initial Characterization of Human Red Cell NAD (P)$^+$ase 877
R. Ravazzolo, G. Bruzzone, C. Garrè, and F. Ajmar

Vol. 14, Nos. 11/12 **December 1976**

Comparative Immunochemical Studies of the Serum Low-Density Lipoprotein in Several Animal Species 883
Sonia Goldstein and M. John Chapman

Chromosome Number and Flavonoid Synthesis in *Briza* L. (Gramineae) 897
B. G. Murray and C. A. Williams

Identification of Wheat (*Triticum aestivum* L.) Chromosomes with Genes Controlling the Level of Nitrate Reductase, Nitrite Reductase, and Acid Proteinase Using the Chinese Spring–Hope Substitution Lines 905
J. H. Sherrard, D. L. Green, L. B. Swinden, and M. J. Dalling

Genetic Control and Distribution of Leucine Aminopeptidase in the Cultivated Chenopods (*Chenopodium*) and Related Weed Taxa 913
Hugh D. Wilson

Effects of the *Bgs* Locus on Mouse β-Galactosidase 921
Miriam H. Meisler

Correlation Between Structural Variation and Activity of Murine Kidney β-Galactosidase: Implications for Genetic Control 933
I. C. Li and W. L. Daniel

On the Detection of Functional and Structural Enzyme Mutants by Coordinated Affinity Chromatography and Isoelectric Focusing 953
Herman Amnéus

An Investigation of the Products of 53 Gene Loci in Three Species of Wild Canidae: *Canis lupus, Canis latrans,* and *Canis familiaris* 963
R. A. Fisher, W. Putt, and E. Hackel

Gene Action in Fish of Tetraploid Origin. V. Cellular RNA and Protein Content and Enzyme Activities in Cyprinid, Clupeoid, and Salmonoid Species 975
J. Schmidtke, B. Schulte, P. Kuhl, and W. Engel

Genetics of Peroxisomal Enzymes in the Mouse: Nonlinkage of D-Amino Acid Oxidase Locus (*Dao*) to Catalase (*Cs*) and L-α-Hydroxyacid Oxidase (*Hao-1*) Loci on Chromosome 2 981
Roger S. Holmes

Biological Role of Alcohol Dehydrogenase in the Tolerance of *Drosophila melanogaster* to Aliphatic Alcohols: Utilization of an ADH-Null Mutant 989
Jean R. David, Charles Bocquet, Marie-Françoise Arens, and Pierre Fouillet

Genetic Study of Pancreatic Proteinase in Mice (*Mus musculus*): Linkage of the *Prt-2* Locus on Chromosome 8 999
Tomomasa Watanabe, Nobuaki Ogasawara, and Haruko Goto

Genetic Control of Heat Sensitivity and Activity Level of Murine Arylsulfatase B 1003
William L. Daniel

Genetic Control of Soluble NAD-Dependent Sorbitol Dehydrogenase in *Drosophila melanogaster* 1019
William L. Bischoff

The Enzymatic Deficiency Conditioned by the *shrunken-1* Mutations in Maize 1041
Prem S. Chourey and Oliver E. Nelson

Induction of Enzymes of the Glycerophosphate Pathway in *leu-5* Mutants of *Neurospora crassa* 1057
James B. Courtright

Multiple Structural Genes for the α Chain of Canine (*Canis familiaris*) Hemoglobin 1065
S. L. Dresler, B. Brimhall, and R. T. Jones

Analysis of Repetitive DNA in Three Species of *Gossypium* 1071
J. T. Wilson, F. R. H. Katterman, and J. E. Endrizzi

The Ommochrome Biosynthetic Pathway in *Drosophila melanogaster*: The Head Particulate Phenoxazinone Synthase and the Developmental Onset of Xanthommatin Synthesis 1077
M. Yamamoto, A. J. Howells, and Rosemary L. Ryall

Allelic Expression in Intergeneric Fox Hybrids (*Alopex lagopus* × *Vulpes vulpes*). I. Comparative Electrophoretic Studies on Blood Enzymes and Proteins in Arctic and Silver Foxes 1091
O. L. Serov, S. M. Zakijan, T. M. Khlebodarova, and L. I. Korochkin

Author Index to Volume 14 1105

Subject Index to Volume 14 1109